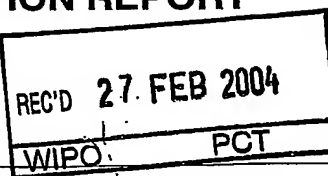


PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)





Applicant's or agent's file reference PM2008/42103	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/B 03/01726	International filing date (day/month/year) 28.04.2003	Priority date (day/month/year) 30.04.2002
International Patent Classification (IPC) or both national classification and IPC A23K1/00		
Applicant ADISSEO FRANCE S.A.S. et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 10.11.2003	Date of completion of this report 25.02.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Korb, M Telephone No. +49 89 2399-8639 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/B 03/01726**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-9 as originally filed

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IB 03/01726**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

- 2. Citations and explanations**
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No.: PCT/IB03/01726

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO 00 28835 A (RHONE POULENC ANIMAL NUTRITION) 25 May 2000 (2000-05-25) cited in the application

D2: G.L. ROMOSER ET AL.: 'An evaluation of the L-methionine activity of the hydroxy analogue of methionine' POULTRY SCIENCE, vol. 55, no. 3, 1976, pages 1099-1103, XP001104093 CHAMPAIGN, IL, US ISSN: 0032-5791

D1: US-A-4 175 121 (MANTHA NAGARAJA S) 20 November 1979 (1979-11-20)

2. Novelty

D1 discloses a feed supplement comprising an ester of the hydroxy analogue of methionine (2-hydroxy-4-(methylthio) butanoic acid (HMB)) or a salt thereof for supplying bioavailable methionine to a cow.

D1, however, is silent on a feed supplement in the solid form comprising a porous carrier and a specific range of amounts of the ester of the hydroxy analogues and the specific size range of the particles as defined in claim 1.

D2 discloses a study on the evaluation of the L-Methionine Activity of the hydroxy analogue of methionine (2-hydroxy, 4- methylthiobutyric acid) for broiler strain chickens based on different samples. In sample HA-50, 90% free acid of the analogue AMA was sprayed on feed grade vermiculite (porous carrier material) to give a formulation providing 50% by weight as AMA (D2, p. 1101, left col. "B. Sample Preparation").

D2, however does not disclose liquid and solid esters of the hydroxy analogue of methionine comprised in an animal rumen-resistant feed supplement in the solid form as defined in claim 1.

Hence, the animal rumen-resistant feed supplement in a specific solid form according to claims 1-9 comprising at least one specific methionine derivative in a specific range of amounts and a porous carrier is considered novel over D1 or D2 (Art. 33(2) PCT).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB03/01726

3. Inventive step

The animal rumen-resistant feed supplement in the specific solid form according to claims 1 to 9 solves the problem of good stability and good results on bioavailability which are at least equivalent to the liquid form.

D1 does not hint at the claimed animal rumen-resistant feed supplement in the specific solid form comprising a porous carrier and specific methionine derivatives in a specific range of amounts having a good stability and providing a large amount of methionine to the animal which is found to be present in the blood stream after a short period of time (compare with the application, page 9 and fig.).

D2 does not deal with the problem of an animal rumen-resistant feed supplement.

Hence, the animal rumen-resistant feed supplement in the solid form according to claims 1-9 is considered to involve an inventive step, in particular over D1 (Art. 33(3) PCT).